FACT SHEET

Ward's Weed *Carrichtera annua*

WHAT IS WARD'S WEED?

Carlsbad is the epicenter of an infestation of a new invasive (weed) species, Ward's weed, which is threatening the health of our natural open space. Ward's weed is a small compact plant that often looks like a small tumbleweed. It is an annual plant that completes its lifecycle, from sprout to producing seed, within one year, and then dies. Ward's weed can be difficult to identify; however, it has a unique "beaked" seed pod (see photo inset). This species can grow as a thick mat that chokes out native species, which could result in the loss of native pollinators, birds, lizards and other animals.

The species is new to North America as of its discovery in Carlsbad in 2008. Because of the extremely high seed count (up to 30,000 seeds per plant per year), this species is able to spread quickly. The seed pods dry up and remain on the plant until the first rains, which cause the seed pods to burst open. Once the plants dry up in the summer, they can burn easily and become a wildfire hazard. Ward's weed is in a small enough geographic area that we think it's possible to eradicate it before it gets too far out of control. If we don't get it under control, it could spread throughout California and the rest of the U.S.

If you have any questions, please feel free to contact our Senior Habitat Program Manager Rosanne.Humphrey@carlsbadca.gov or 760-602-4689

City of Carlsbad

HOW CAN IT BE TREATED?

- In small, sparsely infested areas, hand pulling could work; however this requires diligence and could take many years. It is best to leave plants onsite rather than bagged in plastic and hauled to a landfill due to the potential spread of seed during hauling and disposal. One option is to make piles and solarize them (cover with clear plastic with edges contacting the ground and leave for a year or so).
- Solarization has been considered to kill the plants and seeds in the soil; however, it requires a large amount of plastic sheeting, which is not very attractive and would kill native plants as well as the nonnatives.
- Mowing or weed whipping could be used to reduce the bulk of live or dead plants in an area; however if the cut material is hauled offsite, there is a high likelihood of further spread from the tiny seeds that are carried with the material. Any such work would require decontamination of all clothing and equipment before leaving the site.
- Organic herbicides are not effective for Ward's weed because they only kill the above-ground portion of the plant and do not affect the thousands of seeds produced by each plant. Use of organic herbicides would require re-treatment every 2 – 4 weeks throughout the growing season year after year. Using this method would result in significantly more herbicide use, and more trampling (more site visits), which could damage native habitat.
- Based on 10 years of field experience in Carlsbad, the most effective treatment for Ward's weed was found to be a pre-emergent herbicide, which keeps the seeds from sprouting. Gallery™ has been found to be very effective and does not kill existing native plants.

WHY IS IT IMPORTANT TO TREAT THIS SPECIES SO AGGRESSIVELY?

As part of the Implementing Agreement for the city's Habitat Management Plan (HMP), the city has a legal obligation to assemble and protect a 6,478-acre native habitat preserve system. Part of this commitment is to maintain the long-term habitat value so that the habitat can continue to support viable populations of sensitive plant and animal species. Control of non-native plants is an essential component of this effort. We have an opportunity to potentially eradicate a new invasive species that could spread throughout southern California and beyond. If Ward's weed is not eradicated early, the cost of invasive species treatment and the damage done to native habitats will be significantly greater into the future (see graphic).

If not eradicated, this weed could spread like the non-native tumbleweed, which can be found throughout much of the U.S.